



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,393	07/10/2006	Shinji Tokunaga	062072	1032
38834 7590 12/22/2008 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER				
LEE, RIP A				
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
12/22/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,393

Applicant(s)

TOKUNAGA ET AL.

Examiner

RIP A. LEE

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

This office action follows a response filed on September 16, 2008. Claims 1 and 2 were amended, and new claim 7 was added. Claims 1-3 and 7 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3 and 7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Amended claim 1 recites a limitation that granules have a sphericity of at least 0.6. New claim 7 recites a limitation that granules have a sphericity of at least 0.68. The relevant description in the specification may be located on page 4 and Table 4. The written description defines "approximate spheres" as "a shape of spheres having a sphericity of 0.6." Clearly, this is a definition rather than a qualification of the invention whereby granules must have a sphericity of at least 0.6, as recited in the amended claim. Table 4 shows five examples of granules having sphericity of 0.68, 0.74, 0.75, 0.84, and 0.85. These five limiting examples are hardly representative of the open ended range of "at least 0.68." The overall disclosure would not have conveyed to the person of ordinary skill in the art that rubber granules must have a sphericity encompassing the open ended range of "at least 0.60" and "at least 0.68" as presently claimed.

In light of these considerations, the claims are rejected as failing to comply with the written description requirement.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Görl *et al.* (U.S. 6,433,064) in view of Beppu *et al.* (U.S. 4,551,240) and in view of extrinsic evidence supplied by Watanabe *et al.* (JP 2003-286369).

Görl *et al.* discloses finely divided, pulverulent rubber containing silica filler formed by co-coagulation of aqueous suspension of silica and rubber latex (col. 4, line 50-col. 5, line 15; examples III and IV). Görl *et al.* states that the particle size of rubber particles is in the range between 0.5 to 2 mm (500 to 2000 µm), and rubber powders according to the invention exhibit narrow particle size distribution shifted to smaller particle sizes (col. 2, lines 33-43), however the inventors do not quantify the distribution of particle sizes.

The prior art of Beppu *et al.* discloses an apparatus for air classifying particulate material. Flow velocity is optimized in order to separate particles such that 97 wt % of particles lie within 50 % of the target average particle size and 98 % of particles lie within 70 % of the target average particle size (col. A, table, col. 6).

Görl *et al.* intends to obtain narrow particle size distribution of product particles, and one having ordinary skill in the art would have found it obvious to classify particles in order to obtain a uniform distribution of particles. Since rubber powders are used to prepare useful rubber products, as shown in examples A-C, one having ordinary skill in the art would be motivated to use a uniform distribution of particles in order to obtain uniformly dispersed silica in the rubber product. One having ordinary skill in the art also would have found it obvious to use a uniform distribution of particles to minimize shear in compounding. Thus, it would have been obvious to one having ordinary skill in the art to use the apparatus of Beppu *et al.* in order to classify rubber particles of Görl *et al.* in order to achieve rubber particles having uniform particle distribution, and obtaining the appropriate distribution of particles is a matter of routine experimentation and

would have been well within the skill level of, and thus obvious to, one of ordinary skill in the art.

Görl *et al.* is silent with respect to the morphology of rubber particles, however, the filled rubber particles of the prior art are prepared by the same co-coagulation process described by Applicant. Also, Watanabe *et al.* teaches preparation of silica-filled rubber by the same co-coagulation method (paragraph [0038]), and resulting particles are spherical (paragraph 0060)). Based on these considerations, a reasonable basis exists to believe that rubber particles of the prior art are substantially spherical, and therefore exhibit a sphericity of about 1.0 (ratio of D_g/D_L = 1 for spherical particle). Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Görl *et al.* teaches that rubber particles may contain further additives such as vulcanization accelerators and crosslinking agent (col. 7, lines 24-40). Rubber particles are further vulcanized as shown in examples A-C, and it would have been obvious to one having ordinary skill in the art to vulcanize rubber in order to obtain a rubber product having good mechanical properties.

Response to Arguments

5. The rejection of claims over Görl *et al.* (U.S. 6,433,064) in view of Beppu *et al.* (U.S. 4,551,240), set forth in paragraph 5 of the previous office action dated June 16, 2008, has been withdrawn in view of claim amendments. New grounds of rejection based on these references have been presented in this office action. Applicant's arguments are moot in view of new grounds of rejection. Applicant equates the process of Görl *et al.* with the process shown in their comparative examples to establish that the prior art does not teach the claimed particle size distribution. However, Beppu *et al.* teaches a method for classifying particles such that an appropriate particle distribution may be obtained. Applicant indicates that neither of the references teaches particle morphology, and in particular, the sphericity of particles. As set forth in paragraph 4, *supra*, particle morphology is dependent, at least in part, to the method by which particles are made. Görl *et al.* teaches co-coagulation, which is the method recited in the instant

claims, and extrinsic evidence supports the fact that particles prepared by co-coagulation are substantially spherical. Therefore, reasonable basis exists to believe that the co-coagulation process of Görl *et al.* results in formation of spherical particles, which would exhibit a sphericity value of unity. The burden of proof rests with Applicant to establish any unobviousness differences. *In re Best, In re Spada, loc. cit.*

Priority

6. Receipt is acknowledged of papers (JP 2003-207926) submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu S. Jagannathan, can be reached at (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

/Rip A. Lee/
Art Unit 1796

December 17, 2008

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796